What is claimed is:

1. A polypeptide comprising a first segment of continuous amino acids having the sequence AQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD (SEQ ID NO. 1) covalently linked to a second segment of continuous amino acids having the sequence DSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA (SEQ ID NO. 2).

2. The polypeptide of claim 1, further comprising a glycine between the first segment and the second segment.

3. The polypeptide of claim 1, further comprising a six repeat histidine tag attached to the N-terminus of the polypeptide.

4. The polypeptide of claim 1, further comprising a membrane carrier peptide attached to the C-terminus of the polypeptide.

5. The polypeptide of claim 4, wherein the membrane carrier peptide (Ant) comprises amino acids having the sequence KKWKMRRNQFWVKVQRG (SEQ ID NO. 8).

6. The polypeptide of claim 1, further comprising:

   a. a six repeat histidine tag attached to the N-terminus of the polypeptide; and
   b. a membrane carrier peptide attached to the C-terminus of the polypeptide.

7. The polypeptide of claim 1, comprising amino acids having the palindromic sequence AQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD[glycine]DSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA (SEQ ID NO. 3), wherein the glycine may be present or absent.

8. The polypeptide of claim 1, comprising amino acids having the palindromic sequence DSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA[glycine]AQAGKE PGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD (SEQ ID NO. 4), wherein the glycine may be present or absent.

9. The polypeptide of claim 7, comprising amino acids having the palindromic sequence AQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD[glycine]DSDPGE TKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA[glycine]AQAGKEPGGSRA HSSHLKSKKGQSTSRHKKLMFKTEGPDSD[glycine]DSDPGETKFMLKKHRSTS QGKKSKLHSSHARSGGPEKGAQA (SEQ ID NO. 5), wherein the glycine may be present or absent.

10. The polypeptide of claim 9, further comprising a six repeat histidine tag attached to the N-terminus of the polypeptide.

11. The polypeptide of claim 9, further comprising a membrane carrier peptide attached to the C-terminus of the polypeptide.

12. The polypeptide of claim 11, wherein the membrane carrier peptide comprises amino acids having the sequence KKWKMRRNQFWVKVQRG (SEQ ID NO. 8).

13. The polypeptide of claim 9, further comprising:

a. a six repeat histidine tag attached to the N-terminus of the polypeptide; and

b. a membrane carrier peptide attached to the C-terminus of the polypeptide.

14. The polypeptide of claim 8, comprising amino acids having

the palindromic sequence DSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA[glycine]AQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD[glycine]DSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA[glycine]AQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD (SEQ ID NO. 6), wherein the glycine may be present or absent.

15. The polypeptide of claim 14, further comprising a six repeat histidine tag attached to the N-terminus of the polypeptide.

16. The polypeptide of claim 14, further comprising a membrane carrier peptide attached to the C-terminus of the polypeptide.

17. The polypeptide of claim 16, wherein the membrane carrier peptide comprises amino acids having the sequence KKWKMRRNQFWVKVQRG (SEQ ID NO. 8).

18. The polypeptide of claim 14, further comprising:
a. a six repeat histidine tag attached to the N-terminus of the polypeptide; and
b. a membrane carrier peptide attached to the C-terminus of the polypeptide.

19. The polypeptide of claim 9, comprising amino acids having the palindromic sequence AQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSDDSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQAAQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSDDSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA (SEQ ID NO. 7).

20. A polypeptide comprising at least two covalently linked segments of continuous amino acids, each segment comprising consecutive amino acids having the sequence AQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD (SEQ ID NO. 1).

21. The polypeptide of claim 20, comprising three of the segments covalently linked.

22. The polypeptide of claim 20, comprising four of the segments covalently linked.

23. A polypeptide comprising at least two covalently linked segments of continuous amino acids, each segment comprising consecutive amino acids having the sequence DSDPGETKFMLKKHRSTSQGKKSKLHSSHARSGGPEKGAQA (SEQ ID NO. 2).

24. The polypeptide of claim 23, comprising three of the segments covalently linked.

25. The polypeptide of claim 23, comprising four of the segments covalently linked.

26. A nucleic acid comprising nucleotides encoding the polypeptide of any one of claims 1-25.

27. A plasmid which expresses the polypeptide of any one of claims 1-25.

28. A viral construct containing the plasmid of claim 27.

29. A method of killing cancer cells that contain mutant p53 or over-expressed wild-type p53 by contacting the cancer cells with the polypeptide of any one of claims 1-25.

30. A method of killing cancer cells that contain mutant p53 or over-expressed wild-type p53 by infecting the cancer cells with the viral construct of claim 28.

31. A method of treating a subject suffering from cancer by administering to the subject the polypeptide of any of

claims 1-25.

32. A method of treating a subject suffering from cancer by infecting the subject with the viral construct of claim 28.

33. Use of the viral construct of claim 28 in the manufacture of a medicament for treating cancer.

34. A pharmaceutical composition comprising the viral construct of claim 28 and a pharmaceutically acceptable carrier for treating cancer.

35. Use of the polypeptide of any of claims 1-25 in the manufacture of a medicament for treating cancer.

36. A pharmaceutical composition comprising the polypeptide of any of claims 1-25 and a pharmaceutically acceptable carrier for treating cancer.

37. A method of inducing apoptosis of a cell that contains mutant p53 or over-expressed wild-type p53 comprising contacting the cell with the polypeptide of any one of claims 1-25.

38. A method of inducing apoptosis of a cell that contains mutant p53 or over-expressed wild-type p53 comprising infecting the cell with the viral construct of claim 28.

39. A pharmaceutical composition comprising the viral construct of claim 28 and a pharmaceutically acceptable carrier for inducing apoptosis of a cell that contains mutant p53 or over-expressed wild-type p53.

40. A pharmaceutical composition comprising the polypeptide of any one of claims 1-25 and a pharmaceutically acceptable

carrier for inducing apoptosis of a cell that contains mutant p53 or over-expressed wild-type p53.